

REMARKS:

In the office action, Claims 10 and 12-16 were rejected under 35 USC 102(b) as being anticipated by Blauch et al. (US 5,310,002).

Claims 17 and 19-23 were rejected under 35 USC 103(a) as being unpatentable over US 5,310,002 in view of US PG-PUB 2003/0198562.

Claims 10, 12-17, and 19-23 were rejected under 35 USC 103(a) as being unpatentable over Cook, Jr. et al. in view of US 5,310,002 and US PG-PUB 2003/0198562.

Claims 10, 11, 14-18, and 21-23 were rejected under 35 U.S.C. 103(a) as being unpatentable over Jones in view of US 5,310,002 and US PG-PUB 2003/0198562.

Claims 10, 11, 13, 14, 16-18, 20, 21, and 23 were rejected under 35 U.S.C. 103(a) as being unpatentable over Kelley et al. in view of US 5,310,002 and US PG-PUB 2003/0198562.

It is believed that the cancellation of these claims renders these rejections moot.

As the examiner can see, new claims 24 to 32 correspond to original claims 1 to 9, with the addition of further limitations to independent claim 24 in order to more clearly distinguish the method from prior art teachings. Specifically, the liquid accumulation is now described as being spaced from the wellbore and reducing the flow rate of flowing gas toward the wellbore. These limitations are supported in the specification on page 10, lines 7 to 14. In addition, the rapid pressure decrease has been indicated as being introduced in order to increase the velocity of the flowing gas and thereby dislodge the liquid to allow flow thereof toward the wellbore. This limitation is supported in the specification from page 9, line 19 to page 10, line 4.

It is believed that the current independent claim 24 is not anticipated by Blauch et al. (US 5,310,002). Specifically, US 5,310,002 does not disclose the step of inducing a rapid decrease in flowing pressure into the gas well as described in the present application. While US '002 does disclose recovering a fluid from a formation by holding back pressure on the reservoir by means of a surface choke (column 12, lines 9 to 26), it does not indicate the need for the pressure change to be applied in a rapid manner. The rapid drop in pressure described in the present invention is used to dislodge liquid trapped in the area surrounding the wellbore by suddenly increasing the velocity of flowing gas through the region. A gradual drop may not create a large enough pressure differential in this area to free the liquid. Blauch et al. teach the use of an additive for improving the recoverability of treatment fluids introduced to a well formation and recovery of these fluids by swabbing, gas assist, jetting, reservoir pressure or surface choke. In other words, US '002 teaches the optional use of a change in pressure to induce fluid flow, not a rapid drop in pressure to dislodge trapped liquid. Instead, Blauch et al. teach the dislodging of fluid through the use of an additive designed to improve the liquid's recoverability from the material.

It is believed that the current independent claim 24 is also not anticipated by either of Jones and Cook, Jr et al. Specifically, Jones and Cook, Jr. et al both teach the removal of liquid from the well in order to create a pressure drop in the reservoir which allows gas contained within the liquid to be released therefrom. The present invention is aimed at recovering fluid that is trapped at a distance from the wellbore in order to improve gas flow in this region. The limitations included in the new independent claim 24 of the present application highlight this difference. The gas described in these prior art inventions is trapped within liquid, while the gas described in the present application is flowing and thus can achieve the result of dislodging the liquid around the wellbore. The method of Cook, Jr. et al. is intended for use with

"watered out" reservoirs where liquid can be produced at high rates to create a pressure reduction and allow gases to be released from liquid. As indicated between column 4, line 55 and column 5 line 2 of the Cook, Jr. et al. patent, it is this high production rate that allows further recovery of oil and gas. Similarly, Jones teaches a method that also requires the removal of liquid from the bottom of the well in order to decrease pressure in the aquifer to allow gas to exsolve from the liquid. The present invention is therefore not anticipated by Cook, Jr. et al. and Jones as they do not teach the use of a rapid decrease in pressure to increase the velocity of flowing gas. The present invention, unlike those of Cook, Jr. et al and Jones, does not require the condition of a gas-containing liquid removable through the wellbore at high rates in order to improve the flow of gas from the well.


It is believed that the current independent claim 24 is also not anticipated by Kelley et al. Specifically, the teachings of Kelley et al. do not include a rapid flow pressure reduction for dislodging liquid surrounding the wellbore. Lines 4 to 11 of column 14 of the Kelley et al. prior art patent disclose maintaining a lower pressure above a liquid to create a pressure differential corresponding to a specific fluid flow and liquid level. The concept of maintaining a pressure differential does not suggest the rapid reduction in flow pressure of the present invention for the purpose of dislodging fluid from around the wellbore.

Overall, the limitations of the new independent claim 24 of the present application distinguish the present invention from the teachings of the prior art .

Further and more favorable consideration is respectfully requested.

Respectfully submitted

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